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MANAGEMENT | RESEARCH ARTICLE

Ambidexterity in Indonesian SMEs: A systematic review and synthesis for future research

Maria Pampa Kumalaningrum^{1,2*}, Wakhid Slamet Ciptono³, Nurul Indarti³ and Boyke Rudy Purnomo³

Abstract: The Coronavirus Disease (COVID-19) pandemic has caused problems for Indonesian SMEs, in terms of supply chain and changes in their markets' demand. SMEs cannot survive only by exploiting their existing businesses, but also by trying to explore new opportunities and ways of doing business. SMEs will have better performance if they can balance exploration and exploitation, hereinafter referred

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PUBLIC INTEREST STATEMENT

The COVID-19 pandemic has caused SMEs in Indonesia to face problems in terms of supply chains and changes in public demand. In order to be able to deal with these changes, SMEs are required to be able to carry out ambidexterity. Because most SMEs in Indonesia are family companies, ambidexterity will face obstacles related to limited internal resources. This study conducted a literature review to broaden the understanding of strategies for implementing ambidexterity. The results of the analysis show that research on ambidexterity so far has focused more on the RBV perspective. This has resulted in SMEs only relying on limited internal resources, thus experiencing resource problems. To overcome these problems, the discussion of ambidexterity in SMEs requires the perspective of RDT and Social network theory to complement the perspective of RBV. When SMEs establish relationships with external partners and create networks, SMEs will get additional resources to perform ambidexterity.



to as ambidexterity. Demand for ambidexterity is difficult because SMEs usually have limited resources and capabilities. Based on the literature review, the resource-based view (RBV) is the most frequently used perspective to discuss ambidexterity. This shows that the SMEs only focus on their internal resources so they experience a lack of resources. Based on this gap, the resource dependence theory (RDT) and social network theory are integrated with the RBV to broaden the discussion of ambidexterity in SMEs, to solve their resource-related problems.

Subjects: Strategic Management; Entrepreneurship and Small Business Management

Keywords: ambidexterity; COVID-19; resource-based view (RBV); resource dependence theory (RDT); social networks theory

1. Introduction

The COVID-19 Pandemic has caused several problems for SMEs, namely pressure regarding their cash flow, problems in the supply chain, and problems with changes in their markets' demand (Lu et al., 2020; Xie et al., 2022). The first problem caused by the COVID-19 pandemic is their cash flow (Lu et al., 2020; Papadopoulos et al., 2020). This happens because not all SMEs have sufficient supplies or savings to deal with unexpected conditions. During the pandemic, SMEs have difficulty paying their employees' salaries, debt interest, rent, and other costs. The second problem is related to the supply chain (Farzaneh et al., 2022; Lu et al., 2020; Papadopoulos et al., 2020; Xie & Wang, 2021). The distribution of goods and factory production, which has been hampered due to the COVID-19 pandemic, has caused SMEs to experience shortages in the supply of materials. The third problem is changes in the markets' demand due to social restrictions to prevent the transmission of the COVID-19 virus (Lu et al., 2020; Papadopoulos et al., 2020; Sitinjak et al., 2022).

Current conditions require SMEs to not only survive by exploiting their existing businesses but also by trying to explore new opportunities (Atuahene-Gima et al., 2005; Indarti & Postma, 2013; Jaidi et al., 2022; Kuckertz et al., 2020; Papadopoulos et al., 2020; Posen & Levinthal, 2012). The company will have the ability to find new ideas for innovation, while maintaining existing products, if it has a high ability to balance exploration and exploitation (Gibson & Birkinshaw, 2004; March, 1991; Rothaermel & Deeds, 2004; Seo et al., 2022; Wilden et al., 2018; Xie et al., 2022). Exploitation without exploration causes the company to fail in responding to changing demands and in recognizing the product and the process of improvements that are needed. Conversely, companies that focus too much on exploration will face high costs, the risk of failure, and reduced profits from exploiting the existing products (Kuckertz et al., 2020; March, 1991). Companies will have better performance if they can balance exploration and exploitation, which is called ambidexterity (García-Hurtado et al., 2022; Kahn & Candi, 2021; Lavie et al., 2011; Rintala et al., 2022; Wenke et al., 2021; Wilden et al., 2018).

Resource issues are a big problem faced by SMEs when trying to implement ambidexterity. Apart from resource problems, implementing ambidexterity for SMEs also faces several other obstacles, namely having limited technical expertise, focusing only on incremental changes or exploitation, problems with the cost of inputs and manufacturing that expensive, bureaucracy and regulations, and developing new markets (Jacob et al., 2022; Sahi et al., 2020; Senaratne & Wang, 2018). Because the application of ambidexterity requires many resources, so far ambidextrous activities are usually carried out by large companies (Bengtsson & Johansson, 2014; Carney, 2005; Chang & Hughes, 2012; Gnyawali et al., 2016; Hughes, 2018; Lavie & Rosenkopf, 2006; March, 1991; O'reilly & Tushman, 2013). Only a few studies discuss the ambidexterity of small and medium-sized enterprises (SMEs) (Gibson & Birkinshaw, 2004; Ikhsan et al., 2017; Lubatkin et al., 2006). This happens because SMEs are usually family-owned companies with limited resources so that it is difficult for them to carry out ambidextrous actions when relying solely on internal resources

(Bengtsson & Johansson, 2014; Carney, 2005; Hughes et al., 2017; Hughes, 2018; Voss & Voss, 2013; Widjaja & Sugiarto, 2022).

In Indonesia, the role of SMEs is crucial for Indonesia's economic growth. The number of SMEs reaches 99% of all business units (Brodjonegoro, 2020). The contribution of SMEs to GDP also reaches 60.5%, and to employment is 96.9% of the total national employment absorption (Brodjonegoro, 2020). At this time, the impact of COVID-19 is being felt by all business units, both large companies and SMEs. Because in Indonesia, SMEs are a type of company that is more numerous than large companies, the problems experienced by SMEs will have a big impact on the country.

This leads to the research problem: How can Indonesian SMEs obtain additional resources to carry out ambidexterity? Therefore, the question regarding the problem of ambidexterity in SMEs will be the subject of this research. This study aims to answer the problem of resources to carry out ambidexterity in SMEs in Indonesia. Further, a literature review was carried out to analyze the existing literature to address the problem of ambidexterity in SMEs in Indonesia. Various studies on ambidexterity in SMEs will be synthesized into a framework to develop resources and capacity in SMEs to support ambidexterity.

2. Methodology

2.1. Data analysis

There are several stages of a systematic literature review (Tranfield et al., 2003). The first stage is developing research objectives and determining the review procedure. Based on previous research, it is known that the limited resources and capacity of SMEs are obstacles to carrying out ambidexterity (Carney, 2005; Hughes et al., 2017). This study synthesizes the literature on ambidexterity in SMEs to obtain a resource and capacity in SMEs to implement ambidexterity. The references for this study are taken from journal databases such as Google Scholar, JSTOR, Emerald Insights, Science Direct, Wiley, EBSCO, ProQuest, Springer, and Taylor & Francis, with Scopus levels Q1, Q2, Q3 and Q4. A quartile is determined by the Scimago Journal.

It consists of two categories namely conceptual and empirical research. The category is screened as follows: 1) Articles published from 1976–2023. 2) The article is included in the Scopus database starting Q1–Q4. This article filtering utilizes Publish or Perish software with the keywords ambidexterity, social network, exploration and exploitation, resources, Indonesia, and firm performance. To obtain relevant articles, the study also limited the context by entering the keyword small medium enterprise. Table 1 describes the inclusion and exclusion criteria for the articles that will be critically analyzed in this review study. Assuming the article is frequently cited by other researchers, a citation cutoff of more than 50 is utilized with the literature review included in the Scopus database. Based on the initial screening results, 851 articles were obtained from 1976 to 2023.

The second stage is conducting an article review. This stage involved identifying, selecting, evaluating, and synthesizing pre-existing research. This stage is the initial process for identifying literature titles, abstracts, and keywords of research on ambidexterity between exploitation and exploration. From these criteria, 352 articles were sorted. 352 articles were scrutinized in more detail in terms of contents, hypotheses, constructs or measurement variables, and the theories, which discussed ambidexterity in a small-medium enterprise. These criteria were applied to the articles which were integrated to support the proposed models and propositions. After the analysis was carried out using the theory, 251 articles were selected, consisting of 11 conceptual articles, and 240 empirical research. Approximately 251 articles were read, tabulated, and sorted. The summary of the process is presented in Figure 1.

Table 1. Inclusion and Exclusion Criteria

Inclusion Criteria	Exclusion Criteria
Should involve ambidexterity	Ambidexterity that are not applied in SMEs
Should involve small medium enterprise	SMEs that are not related to ambidexterity
Should involve exploration and exploitation	Exploration and exploitation that are not related to ambidexterity and SMEs
Should involve social network	Social network that are not related to ambidexterity and SMEs
Should involve firm performance	Firm performance that are not related to ambidexterity and SMEs
Should involve Indonesia	Indonesia that are not related to ambidexterity and SMEs
Should be written in English	Articles that are use languages other than English

The same steps were taken for articles that only discussed ambidexterity in Indonesian SMEs. The criteria to consider in selecting literature are the terms such as ambidexterity, social network, exploration, exploitation, resources, Indonesia, and firm performance. To obtain relevant articles, the study also limited the context by entering the keyword Indonesian SMEs. Table 2 describes the inclusion and exclusion criteria for the articles that will be critically analyzed in this review study. Based on the initial screening results, 117 articles were obtained from 1976 to 2023. The second stage is conducting an article review. This stage involved identifying, selecting, evaluating, and synthesizing pre-existing research. This stage is the initial process for identifying literature titles, abstracts, and keywords of research on ambidexterity between exploitation and exploration in Indonesian SMEs. From these criteria, 23 articles were sorted. 23 articles were scrutinized in more detail in terms of contents, hypotheses, constructs or measurement variables, and the theories, which discussed ambidexterity in Indonesian SMEs. These criteria were applied to the articles which were integrated to support the proposed models and propositions. After the analysis was carried out using the theory, 9 articles were selected, and approximately 9 articles were read, tabulated, and sorted.

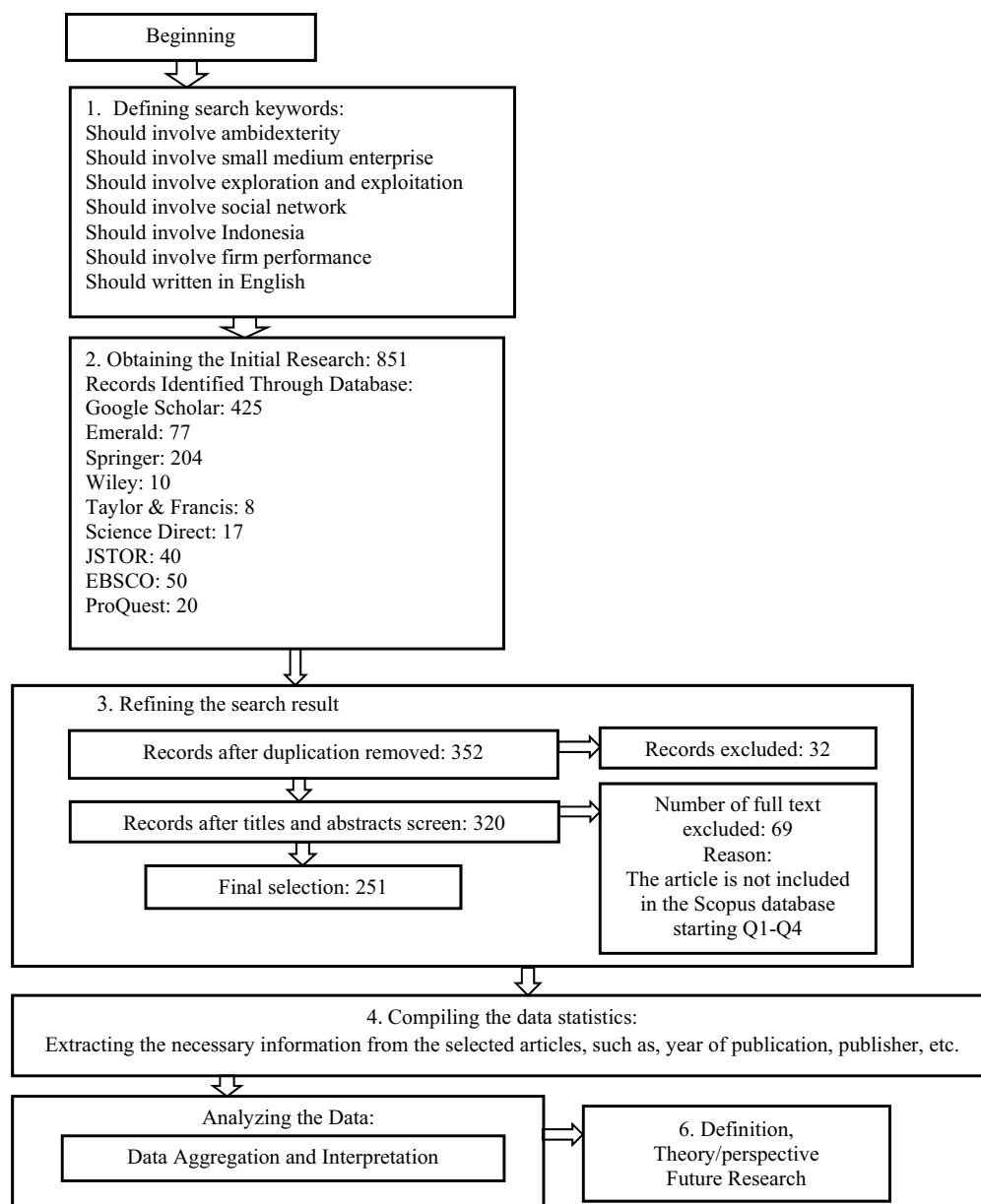
Due to the limited number of articles regarding ambidexterity in Indonesia, the researcher conducted two stages of literature analysis to obtain a more complete picture. In the first analysis, articles relating to the discussion of ambidexterity in Indonesian SMEs are merged into one with articles on ambidexterity in SMEs from other countries. In the second analysis, articles regarding the condition of ambidexterity in Indonesian SMEs, are analyzed separately.

The third stage is mapping and making reports on the results and themes of journal articles to propose a research model. This paper uses a bibliometric analysis approach to quantitatively analyze the performance of publications. Furthermore, the bibliometric analysis consists of three questions as follows: What research has been done in the field of ambidexterity in the context of SMEs, in terms of definitions, theories, and methodologies? What keywords are often used in ambidexterity research? What is the future research agenda in the ambidexterity research?

2.2. Result and discussion

The mapping results are shown in Figures 2, Figures 3, 4, and Figure 5. Figure 2 provides annual trends in the number of published articles from 1973 to 2023. The number of publications on ambidexterity has increased sharply since 1999. This highlights the fact that ambidexterity has gained increasing attention from the academic community. Ambidexterity to balance exploration and exploitation has been widely discussed in journals covering the fields of business and

Figure 1. Logical flow chart of the protocol of the studies.



management. The main resource of publications was Organization Science, Strategic Management, Academy of Management Journal, Journal of Business Research, Journal of Business Venturing, and Journal of Knowledge Management. Figure 3 is the distribution of journals which published the research in more than 2 papers.

A keyword analysis is used to map words most frequently associated with ambidexterity. A large number indicates that the dimension has been frequently studied. The VOS viewer can classify keywords into different clusters. Extracting from the title and abstract fields, the minimum number of occurrences was set to 3. After the extraction, 851 terms and 95 items met the threshold, so that 9 groups were formed. Some keywords showed more prominent issues in the research on ambidexterity.

Table 2. Inclusion and Exclusion Criteria for Ambidexterity in Indonesian SMEs

Inclusion Criteria	Exclusion Criteria
Should involve ambidexterity	Ambidexterity that are not applied in Indonesian SMEs
Should involve Indonesian SMEs	Indonesian SMEs that are not related to Ambidexterity
Should involve exploration and exploitation	Exploration and exploitation that are not related to ambidexterity and Indonesian SMEs
Should involve social network	Social network that are not related to ambidexterity and Indonesian SMEs
Should involve firm performance	Firm performance that are not related to ambidexterity and Indonesian SMEs
Should be written in English	Articles that are use languages other than English

Figure 4 is a graphic illustration of keywords which are quoted in many empirical articles on ambidexterity. The level of theme density is seen in Figure 5. Red and yellow clusters indicate a high level of density, which means that the theme has been widely studied. The more blurred colors in Figure 5 indicate that the theme is still very rarely investigated empirically. Basically Figure 5 confirms the results of the analysis in Figure 4, which shows that the theme of ambidexterity, innovation, and performance are most often cited as a keyword, followed by exploration and exploitation. Figure 5 also indicates research opportunities which were conducted by researchers related to the theme. Social networks, resource, networks, resource dependence theory, and SMEs are rare areas to be studied in the research on ambidexterity. These areas can be potential research opportunities in future research in ambidexterity.

Figure 6 shows research on ambidexterity in Indonesian SMEs that has only shown an increase starting in 2020. The list of journals that publish articles on ambidexterity in Indonesian SMEs is shown in Figure 7. The results of the analysis are based on the keyword which is quoted in empirical articles on ambidexterity in Indonesian SMEs, more and less show the same as the analysis of literature reviews regarding ambidexterity in various countries. Figure 8 is a graphic illustration of keywords which are quoted in many empirical articles on ambidexterity. The level of theme density is seen in Figure 9. Red and yellow clusters indicate a high level of density, which means that the theme has been widely studied. The more blurred colors in Figure 9 indicate that the theme is still very rarely investigated empirically. Figure 9 confirms the results of the analysis in Figure 8, which shows that the theme of ambidexterity, innovation, exploration, exploitation, and innovation performance are most often cited as a keyword. Figure 9 also indicates research opportunities which were conducted by researchers related to the theme. Social networks, resources, and SMEs are rare areas to be studied in the research on ambidexterity. These areas can be potential research opportunities in future research in ambidexterity. Table 3 shows the analysis of potential concepts in ambidexterity research emerging from the 9 groups of keywords.

2.3. Various theories related to ambidexterity in selected literature

Many studies have explored theories and factors that influence ambidexterity. The literature review of 251 articles showed that the theories and perspectives used in ambidexterity studies are rooted in three categories, namely behavioral theory, social theory, and organization theory. Behavioral theory observes and measures human behavior. The behavioral theories used in ambidexterity research are leadership theory and learning theory. In leadership theory, ambidexterity can be achieved if managers have the ability to handle a lot of information and options for decisions, as well as deal with conflict and ambiguity (Cao et al., 2009; Lubatkin et al., 2006; Raisch & Birkinshaw, 2008; Tushman & O'reilly, 1996). The second theory in this category, namely learning

Figure 2. Ambidexterity Publications.



Figure 3. The Distribution of Journals.

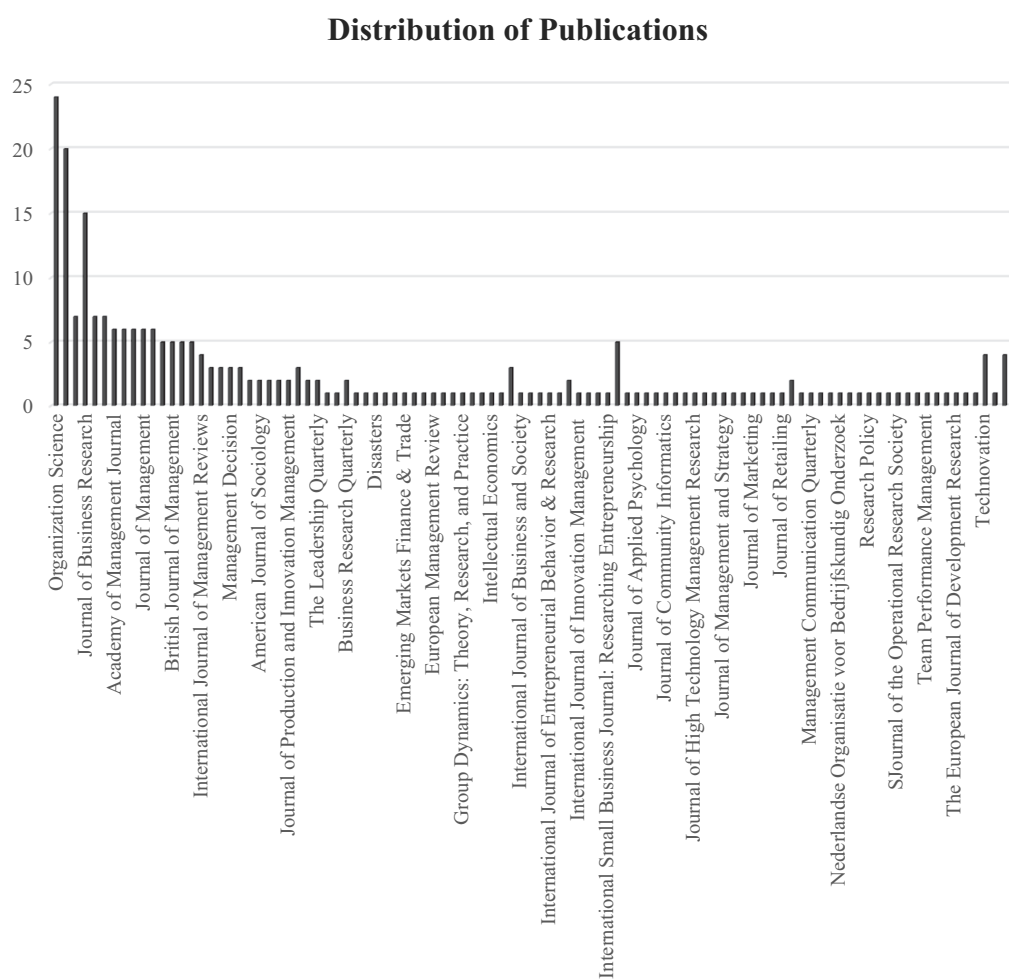


Figure 4. Network mapping of the literature.

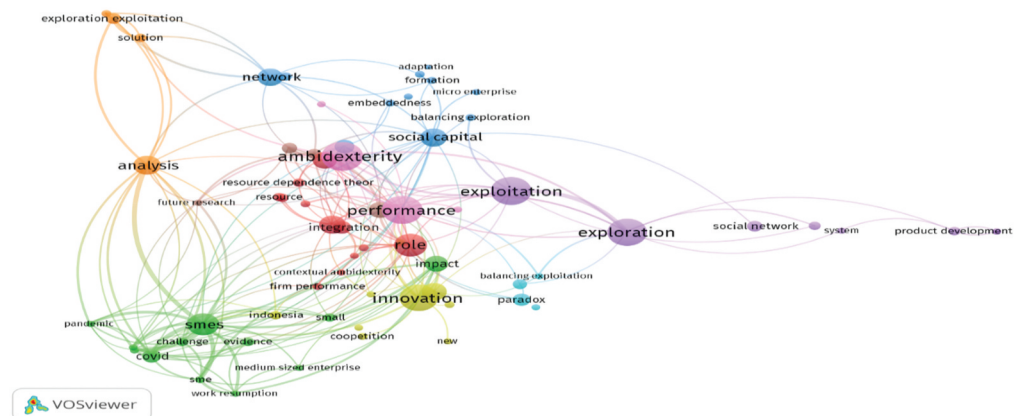
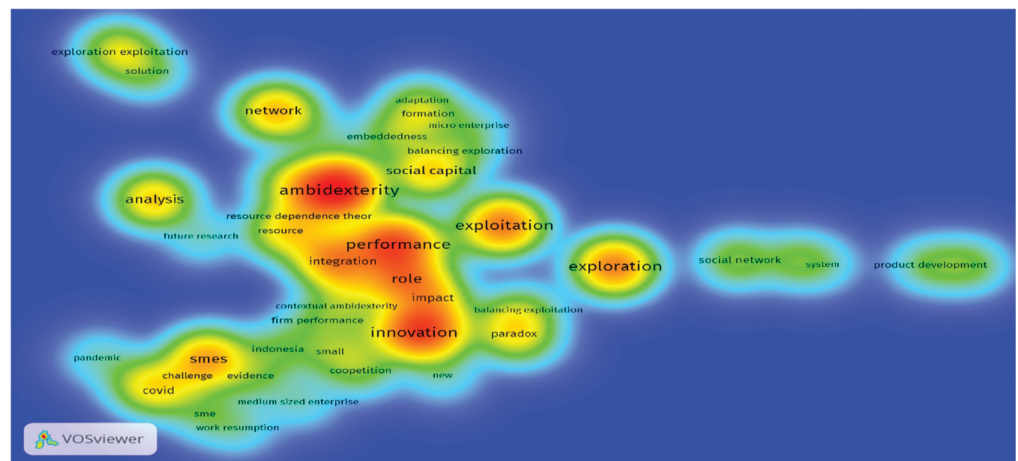


Figure 5. Density Map Visualization.



theory, assumes that ambidexterity is the capacity of an organization to coordinate two opposing tasks simultaneously, which necessitates similar but distinct skills (Brix, 2019; Cao et al., 2009; Gupta et al., 2006; Ibdunni et al., 2020; Levinthal & March, 1993; March, 1991; Raisch & Birkinshaw, 2008; Simsek, 2009).

The second category is sociological theory. The sociological theory used in ambidexterity research is social network theory. According to social network theory, businesses must seek out the best network partner configuration in order to obtain the necessary resources (Bae & Gargiulo, 2004; Beckman et al., 2004; Expósito-Langa & Molina-Morales, 2010; Hoffmann, 2007; Indarti & Postma, 2013; Majid et al., 2020; Rothaermel & Deeds, 2004; Russo & Vurro, 2010; Shiri et al., 2015; Tiwana, 2008). The theories used in ambidexterity research are mostly in the third category, namely organizational theory. These categories include theories of dynamic capacity, innovation management, resource dependence theory, resource-based views, mechanistic and organic perspectives, absorptive capacity theories, strategic management, organizational design, resource orchestration theory, and contingency theory. Table 4 shows the theories in the selected literature in this study.

Figure 6. Publications about Ambidexterity in Indonesian SMEs.

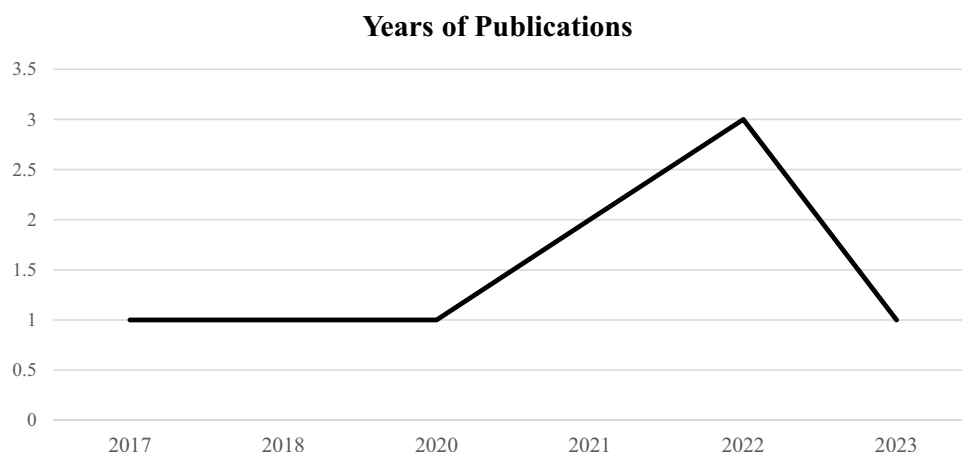
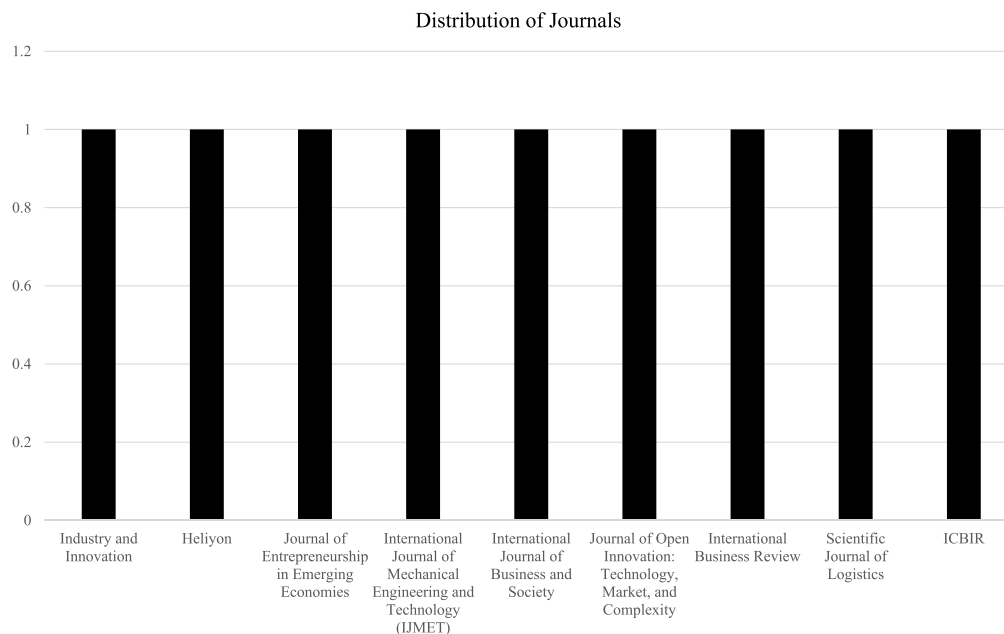


Figure 7. The Distribution of Journals about Ambidexterity in Indonesian SMEs.



2.4. Dimensions of exploration and exploitation

Ambidexterity is a dynamic capability that a company has (March, 1991; O'reilly & Tushman, 2013). Birkinshaw and Gupta (2013) state that ambidexterity is an organization's capability to manage contradictions and various pressures in the present and the future, achieve efficiency and effectiveness, optimize its existing assets, and make innovations. In addition, ambidexterity is also considered to be the dynamic capability to simultaneously explore and exploit resources (Birkinshaw & Gupta, 2013; March, 1991; O'reilly & Tushman, 2013; Priyanka et al., 2022; Teece et al., 2016; Teece, 2017). Capability, from a resource-based view, is the source of a company's sustainable competitive advantage (Barney, 1991; Warnerfelt, 1984).

Often due to their limited resources and capabilities, SMEs have difficulties in balancing exploration and exploitation. To discuss the resource constraints problems faced by SMEs, this article will first analyze the meaning of exploration and exploitation from the selected literature in this study. There are several definitions of exploration and exploitation based on various pieces of literature.

Figure 8. Network mapping of the literature about Ambidexterity in Indonesian SMEs.

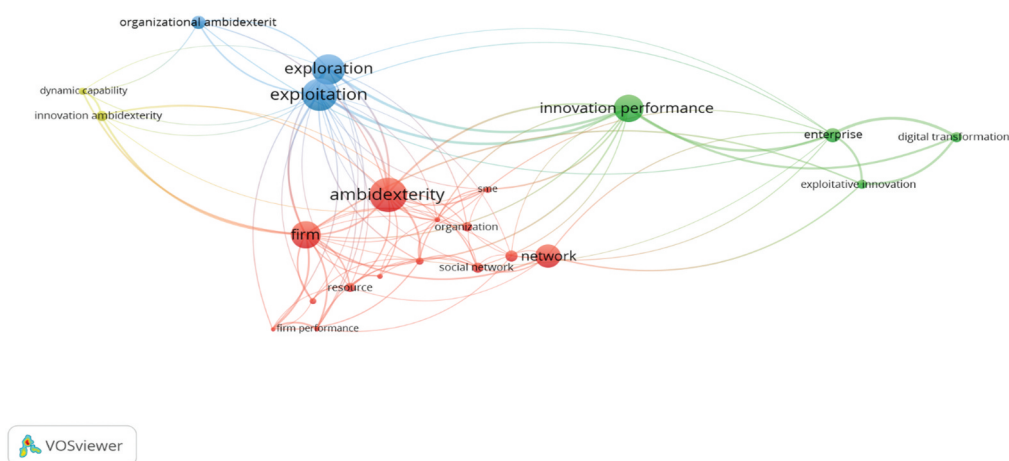
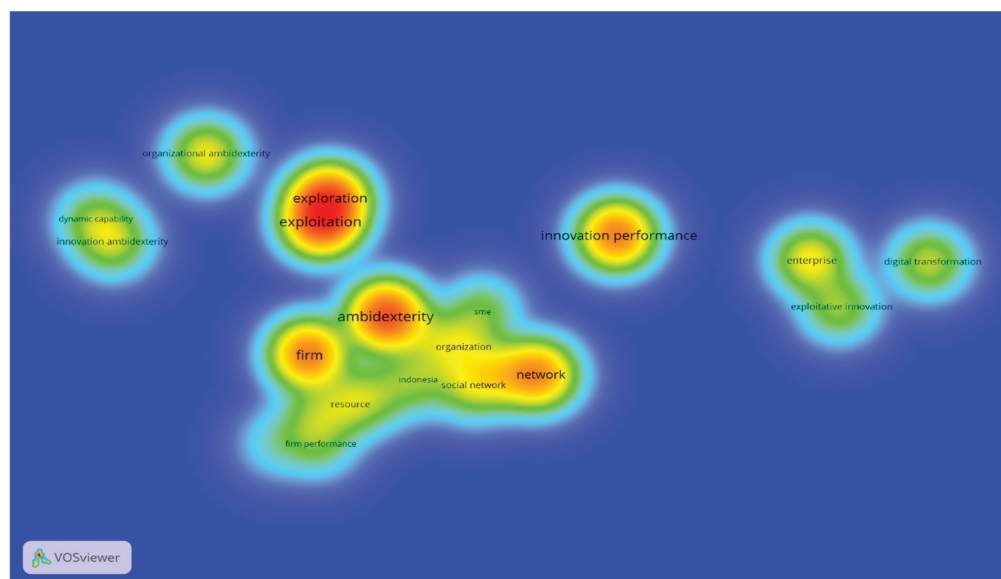


Figure 9. Density Map Visualization about Ambidexterity in Indonesian SMEs.



From these definitions, this study formulates several dimensions of exploration and exploitation. Table 5 shows the dimensions of exploration and exploitation taken from the various definitions of exploration and exploitation. The first dimension is knowledge, in which exploration is defined as the act of finding new knowledge, while exploitation as the act of managing existing knowledge (Bengtsson & Johansson, 2014; Gibson & Birkinshaw, 2004; March, 1991; Nofiani et al., 2021). The second dimension is strategy, in which exploration is defined as creating something new, whereas exploitation is developing what already exists (He & Wong, 2004; Hughes et al., 2017; Voss & Voss, 2013; Yuan et al., 2021).

Innovation is the third dimension, in which exploration is the process of creating radical innovations, while exploitation is the process of improvement (Amankwah-Amoah & Adomako, 2021; Birkinshaw & Gupta, 2013; Cho et al., 2019; Fu et al., 2021; Gnyawali et al., 2016; He & Wong, 2004; Jansen et al., 2012; Lubatkin et al., 2006; March, 1991; Senaratne & Wang, 2018). The fourth dimension is learning, in which exploration is defined as the act of learning through new alternative experiments, while exploitation is the act of learning through improving existing

Table 3. Analysis of the Potential Concepts Emerging from the Subgroups

Group	Keyword	Conceptualization/Themes
1	Contextual ambidexterity, firm performance, network integration, product innovation, resource dependence theory, resource.	Research on contextual ambidexterity uses resources from network integration to achieve company performance.
2	Adaptation, balancing exploration, micro enterprise, multiplexity, network, social capital, structural hole.	Research on social networks and structural holes in micro business units to support the implementation of exploration strategies.
3	Challenge, COVID, digital technology, medium enterprise, SMEs.	Research on the challenges of using digital technology in SMEs to deal with the COVID-19 pandemic.
4	Alliances, balancing knowledge strategy, exploitation, exploration, product development, and social network.	Research on social networks, exploration and exploitation to develop products.
5	Cooperation, Indonesia, innovation, knowledge acquisition, organizational ambidexterity, small firm.	Research on cooperation to gain new knowledge for small and medium enterprises in Indonesia.
6	Alliance ambidexterity, balancing exploitation, innovation ambidexterity, paradox.	Research on ambidexterity across organizations to achieve innovation.
7	Creative industry, management, future research.	Ambidexterity research in the creative industry.
8	Analysis, exploration exploitation, solution, new level.	Analysis of the optimal level of balance of exploration and exploitation.
9	Absorptive capacity, ambidexterity, performance, technology strategy.	Absorption capacity of new technology strategies to support ambidexterity.

Table 4. Used Theories in Ambidexterity Literature

Field	Theoretical Approach/Description
Behavioral Theory	<p>Leadership Theory The internal processes of TMTs that allow them to handle a lot of information and options for decisions, as well as deal with conflict and ambiguity, are a key factor in ambidexterity (Cao et al., 2009; Lubatkin et al., 2006; Raisch & Birkinshaw, 2008; Tushman & O'reilly, 1996).</p> <p>Learning Theory Learning theory ought to be associated with ambidexterity in exploration and exploitation. From a learning theory perspective, ambidexterity is the capacity of an organization to coordinate two opposing tasks simultaneously, which necessitates similar but distinct skills (Brix, 2019; Cao et al., 2009; Gupta et al., 2006; Ibidunni et al., 2020; Levinthal & March, 1993; March, 1991; Raisch & Birkinshaw, 2008; Simsek, 2009).</p>
Sociological Theory	<p>Network Theory The pressure to explore and exploit places a strain on SMEs with limited resources. As a result, businesses must seek out the best network partner configuration in order to obtain the necessary resources (Bae & Gargiulo, 2004; Beckman et al., 2004; Expósito-Langa & Malina-Morales, 2010; Hoffmann, 2007; Indarti & Postma, 2013; Majid et al., 2020; Rothaermel & Deeds, 2004; Russo & Vurro, 2010; Shiri et al., 2015; Tiwana, 2008).</p>
Organizational Theory	<p>Innovation Management Ambidexterity is an organization's ability to balance between exploiting existing products by developing incremental innovation and exploring new products by developing radical innovation (Andriopoulos & Lewis, 2009; Arnold et al., 2011; Atuahene-Gima et al., 2005; He & Wong, 2004; Huang et al., 2018; Wang & Rafiq, 2014).</p> <p>Resource Dependence Theory According to Resource Dependency Theory (RDT), the external environment is the source of resources that are critical to the organization's performance, and these resources shape the organization's structure, boundaries, and internal activity (Chesbrough & Appleyard, 2007; Chiu, 2008; Chu et al., 2019; Nofiani et al., 2021; Pfeffer & Salancik, 2003; Sherer & Lee, 2002; Utomo & Simatupang, 2019).</p>

(Continued)

Table 4. (Continued)

Field	Theoretical Approach/Description
Organizational Theory	<p>Dynamic Capability From a dynamic capability perspective, organizations must have the capability to combine, reconfigure, and integrate the resources and skills needed for innovation ambidexterity (Andrade et al., 2022; Gibson & Birkinshaw, 2004; Ngammoh et al., 2023; O'Reilly & Tushman, 2008; Sitinjak et al., 2022; Teece et al., 2016; Teece, 2017)</p> <p>Mechanistic and Organic Perspective</p> <p>The ability of the organization to strike a balance between mechanistic and organic structures (Sine et al., 2006; Turner & Lee-Kelley, 2013; Turner et al., 2013).</p> <p>Absorptive Capacity Theory</p> <p>Absorptive capacity theory examines the extent to which organizations can recognize the value of external information, assimilate it, and apply it to achieve organizational goals. In addition, absorptive capacity can support ambidexterity because high absorptive capacity can encourage exploration of new knowledge and at the same time exploit existing knowledge (Aliasghar & Haar, 2021; Cohen & Levinthal, 1990).</p> <p>Resourced-Based View</p> <p>RBV views the organization as a collection of resources and capabilities that can be used to gain a competitive advantage. The ability to explore and exploit simultaneously, or to be ambidextrous, is one of the organization's dynamic capabilities (Amit & Schoemaker, 1993; Lin et al., 2012; O'Reilly & Tushman, 2008; Tushman & O'Reilly, 1996).</p> <p>Knowledge-Based View Knowledge is an important source for ambidexterity because exploration and exploitation require paradoxical views of knowledge (Ali et al., 2022; Bengtsson & Johansson, 2014; Cho et al., 2019; Gnyawali et al., 2016; Gupta et al., 2006; Jansen et al., 2012; Lin et al., 2012; Saratchandra et al., 2022; Soto-Acosta et al., 2018).</p> <p>Strategic Management Ambidexterity, according to strategic management, is the organizational capacity to make use of current "advantages, technology, and markets" and look into new possibilities in order to realize organizational strategic goals (Cao et al., 2009; Hughes et al., 2017; Iborra et al., 2022; Voss & Voss, 2013).</p> <p>Organizational Design</p> <p>Ambidexterity is the ability to simultaneously pursue both incremental and discontinuous innovation and change in the presence of several conflicting structures, processes, and cultures within the same organization (Andriopoulos & Lewis, 2009; Raisch & Birkinshaw, 2008; Raisch et al., 2009; Tushman & O'Reilly, 1996).</p>

(Continued)

Table 4. (Continued)	
Field	Theoretical Approach/Description
Organizational Theory	<p>Resource Orchestration Theory A merger of orchestration assets and resource management is orchestration theory. According to this notion, ambidexterity orientation can be attained by combining resources, skills, and managerial prowess (Kuratko & Hoskinson, 2018; Lee & Lévesque, 2023).</p> <p>Contingency Theory An organization will be more successful if it can exercise ambidexterity, adapt to a stable and turbulent environment, and strike a balance between an internal and external perspective (Hughes, 2018; Sine et al., 2006).</p>

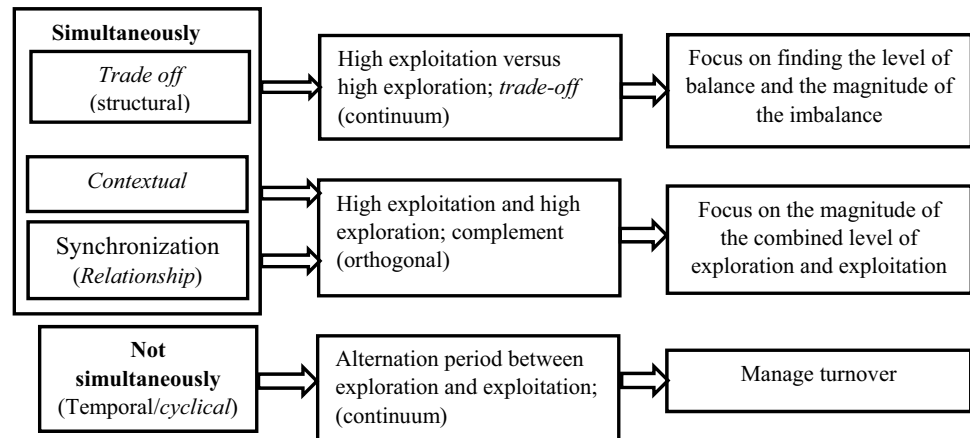
Table 5. Dimension of Exploration and Exploitation

Dimension	Exploration	Exploitation	Theory
Organizational Knowledge (Bengtsson & Johansson, 2014; Birkinshaw & Gupta, 2013; Cho et al., 2019; Gnyawali et al., 2016; Gupta et al., 2006; He & Wong, 2004; Ikhsan et al., 2017; Jansen et al., 2012; Lin & McDonough, 2014; Lin et al., 2012; Lubatkin et al., 2006; Senaratne & Wang, 2018).	Searching for new knowledge, learning gained from the experimental process and a variety of existing variations, and flexibility.	Using existing knowledge, learning from experience and routines, research, and improvement.	Resource-based view and knowledge-based view.
Strategy (He & Wong, 2004; Hughes et al., 2017; Voss & Voss, 2013).	Strategy of creating new products, strategy of entering new markets.	Strategy to improve existing products, strategies to maintain the current market.	Resource-based view.
Innovation (Benner & Tushman, 2015; Chang & Hughes, 2012; Gupta et al., 2006; He & Wong, 2004; Hughes et al., 2017; Lin & McDonough, 2014; March, 1991; Voss & Voss, 2013).	Creating new products, radical innovations and new technologies.	Improving existing products, incremental innovation, and developing existing technologies.	Resource-based view.
Learning (Gupta et al., 2006; Lubatkin et al., 2006; March, 1991).	The act of learning through new alternative experiments, creating returns that are difficult to predict, and may not necessarily generate profits for the company.	The act of learning through improving existing competencies, improving technology and the company's existing paradigms, which will generally show positive, precise, and predictable results.	Resource-based view.
Marketing Strategy (Voss & Voss, 2013).	Attract new customers and enter new markets.	Increase income from current customers and markets.	Resource-based view.
Partnership (Beckman et al., 2004; Granovetter, 1983; Hoffmann, 2007; Indarti & Postma, 2013; Kauppila, 2010; Lavie & Rosenkopf, 2006; Lavie et al., 2011; Shiri et al., 2015; Stadler et al., 2014; Sun & Lo, 2014; Wilden et al., 2018).	Add new partners and relationships.	Strengthen relationships with existing partners.	Resource-based view and social network theory.

competencies (Gupta et al., 2006; Lubatkin et al., 2006). Customers is the fifth dimension, in which exploration is defined as attracting new customers and entering new markets, whereas exploitation is seen as increasing income from current customers and markets (He & Wong, 2004; Voss & Voss, 2013). The sixth dimension to understanding exploration and exploitation is a partnership. Exploration is when an organization adds new partners and relationships to its network, while exploitation is the act of strengthening the relationships with existing partners (Beckman et al., 2004; Hoffmann, 2007; Indarti & Postma, 2013; Kauppila, 2010; Lavie & Rosenkopf, 2006; Lavie et

Figure 10. Mapping the Ambidexterity Strategy.

Note: adopted from various references (He & Wong, 2004; Hughes et al., 2017; Hughes, 2018; Lavie & Rosenkopf, 2006; Simsek, 2009).



al., 2011; Lubatkin et al., 2006; Shiri et al., 2015; Stadler et al., 2014; Sun & Lo, 2014; Wilden et al., 2018).

Most articles in selected literature, discuss ambidexterity from the perspective of the RBV (Bengtsson & Johansson, 2014; Birkinshaw & Gupta, 2013; Cho et al., 2019; Gnyawali et al., 2016; He & Wong, 2004; Hughes et al., 2017; Ikhsan et al., 2017; Jansen et al., 2012; Lin et al., 2012; Lubatkin et al., 2006; March, 1991; Senaratne & Wang, 2018). Only a small number of the literature discusses exploration and exploitation as having relationships with partners in social networks (Beckman et al., 2004; Hoffmann, 2007; Indarti & Postma, 2013; Kauppila, 2010; Lavie & Rosenkopf, 2006; Lavie et al., 2011; Lubatkin et al., 2006; Shiri et al., 2015; Stadler et al., 2014; Sun & Lo, 2014; Wilden et al., 2018). In general, the RBV states that the source of a firm's competitive advantage is a resource that is valuable, scarce, inimitable, non-substitutable, heterogeneous, and imperfectly mobile (Barley et al., 2018; Warnerfelt, 1984). This causes the company to only focus on internal resources and capabilities of the company, causing it to be a closed organization which emphasizes competition rather than cooperation (Lavie & Rosenkopf, 2006). When ambidexterity in SMEs is seen only from a resource-based view (RBV), the SMEs will experience a shortage of resources so ambidexterity becomes difficult to implement (Lavie, 2006; Voss & Voss, 2013). This suggests that ambidexterity in SMEs requires another perspective to complement RBV.

2.5. Mapping the ambidexterity strategy

From the analysis in Figures 4, 5, 8, and 9, it can be said that the implementation of social networks is an opportunity that can be done if SMEs want to obtain additional resources. In large companies, which have large resources, the implementation of ambidexterity uses a structural strategy, with separate divisions to deal with exploration and exploitation strategies (Hughes, 2018; Knight & Harvey, 2015; Randall et al., 2017). This will be difficult to do in small companies because they usually have limited resources (Hughes et al., 2017; Senaratne & Wang, 2018). In small companies, the usual strategy is contextual ambidexterity and relationship ambidexterity. Contextual ambidexterity suggests that ambidexterity can be managed well if the organization creates a context in which the individuals in it carry out exploration and exploitation simultaneously (Gibson & Birkinshaw, 2004; Tushman & O'reilly, 1996). Relationship strategy is the application of ambidexterity by collaborating with external parties, so it shows that building a social network is one of the strategies for SMEs to do ambidexterity (Gibson & Birkinshaw, 2004; Tushman & O'reilly, 1996).

Figure 10 shows various strategies for implementing ambidexterity from the continuum/orthogonal perspectives and corporate size. There are two perspectives regarding the implementation of

Table 6. Prior Studies that Supported Resource Dependence Theory

Author	Study Purpose	Methods	Participants	Findings
(Chiu, 2009)	Propose a framework in which a firm's network competence and network location are viewed as critical to superior innovation performance.	Survey	30 optoelectronics companies from the cluster of the Southern Taiwan Science Park (STSP)	Results indicate companies with high networking competencies will be in a central or important position on the network. In addition, companies that are in a central position on the network will have better innovation performance. Research also shows that companies with high networking competencies will have higher innovation performance.
(Randall et al., 2017)	Using an exploration/exploitation framework, this paper investigates the difference between intended and realized innovation. Its emphasis is on changes to defined innovation plans that occur after the planning phases are completed.	Survey	Small and medium-sized high-technology enterprises (SMEs)	Results show that businesses shift funds from innovative emergent exploration to the development of already established products, undermining innovation ambitions. Furthermore, the transition between explorative and exploitative development is supported by interest of the agency and resource reliance.

(Continued)

Table 6. (Continued)

Author	Study Purpose	Methods	Participants	Findings
(Nofiani et al., 2021)	Demonstrate that the organization needs to seek out external resources to performance. The research shows how innovation and social networks' ambidexterity will mediate the connection between entrepreneurial orientation (EO) and business performance (FP). Also, this study compares the ambidextrous approach between the balanced dimension (BD) and combined dimension (CD) and looks at how it affects the performance of small and medium-sized businesses (SMEs).	Survey	205 fashion firms' owners or managers in Yogyakarta, Indonesia	Results show that the relationship between EO and the performance of SMEs is mediated by innovation and social network ambidexterity. The BD ambidextrous strategy outperforms the CD ambidextrous method. The study reveals an intriguing finding: when EO is absent, it appears that the CD method dominates FP.
(Utomo & Simatupang, 2019)	In this study, organizational ambidexterity is modeled as a mediating factor in the relationship between alliance creation and company competitiveness.	Survey	137 startups in Indonesia	Results show that the primary goal of choosing a suitable partner that is represented by the alliance formation is to provide the startup business with resources. That is to handle the dilemma of management in learning, innovation, and decision-making for transformation.

(Continued)

Table 6. (Continued)

Author	Study Purpose	Methods	Participants	Findings
(Hoffmann, 2007)	Describe the factors that affect how an alliance portfolio is configured and changes over time.	Interview and secondary data	Data about the evolution of the alliance portfolios of two chosen business divisions from 1990 to 1999, which corporate divisions include fossil energy production and rail and transport systems.	Results demonstrate how companies can use alliance strategies to consistently access resources outside of their entity boundaries; how doing so aids in strategically optimizing the position of the focal company in the interorganizational field, and how doing so helps to improve its financial performance.
(Sherer & Lee, 2002)	Combine resource dependency and institutional theory to make the case that institutional change is driven by resource scarcity and made possible by legitimacy.	Survey and interview	200 principal offices of large law firms that had 25 or more lawyers in at least one year during the period 1985–1994 as reported in the annual directories of the National Association for Law Placement (NALP)	Results show human resource practice innovation in the principal offices of large law firms was motivated by competitive pressures, related to human resource scarcity and enabled by institutional forces related to the legitimacy of highly prestigious law firm offices.

Table 7. Prior Studies that Supported Social Network Theory

Author	Objective	Methods	Participants	Findings
(Bae & Gargiulo, 2004)	The purpose of this paper is to investigate the effects of partner substitutability and alliance network structure on organizational profitability.	Secondary data	Firms confirm in the U.S. telecommunications industry that they were a facilities-based service provider, engaged in at least one alliance with another facilities-based provider between 1991 and 1998, their stocks were publicly traded on U.S. stock exchanges, and they were headquartered in the United States.	Results show non-substitutable partners benefited from alliances embedded in third-party ties. Additionally, the coefficients for market power of partners and critical partners were both insignificant. Moreover, network density had a significant and negative impact on profitability. Furthermore, the interaction terms between network density and the market power of both partners, as well as the proportion of critical partners, were both positive and significant.
(Gibson & Birkinshaw, 2004)	Identified the impact of organizational and social context on organization performance. Furthermore, ambidexterity serves as a bridge between these social contextual factors and performance.	Survey and interview	4,195 individuals from 41 business units in the ten multinational firms in Japan, USA, Canada, India, France, South Korea	Results show organizational context and social context both had a significant impact on performance. Moreover, ambidexterity significantly mediates the relationship between organizational context and performance. Furthermore, ambidexterity significantly mediates the relationship between social context and performance.
(Beckman et al., 2004)	The study identified the variables influencing the selection of alliance and interlock partners to identify interorganizational network change.	Survey	Using data on both interlock and alliance networks for the 300 largest U.S. firms during the 1988–1993 period	Results provide some evidence that the type of uncertainty experienced by firms influences whether networks are stable or changing.

(Continued)

Table 7. (Continued)

Author	Objective	Methods	Participants	Findings
(Russo & Vurro, 2010)	This paper investigates how businesses can balance exploratory and exploitative technology-learning activities across organizational boundaries.	Secondary data	A longitudinal panel of data of 153 companies involved with innovation in the worldwide fuel cell industry over the period 1999–2006.	Results show cross-border exploration and exploitation strategies boost a company's innovative performance.
(Majid et al., 2020)	Investigate the relationship between network capability (NC), strategic flexibility (SF), organizational ambidexterity (OA), and strategic performance (SP). Additionally, the interaction effect of NC and OA on SP is investigated.	Survey	769 CEOs and owners/managers of SMEs in Pakistan	Results show that NC had an immediate impact on SF and SP. The outcomes also support SF's mediation function in the interaction between NC and SP. Also, it is confirmed that OA played a moderating function in fostering the link between NC and SP.
(Expósito-Langa & Molina-Morales, 2010)	The effects of social capital on industrial clusters	Survey	152 companies in two Spanish industrial clusters	Results indicate that while redundancy was related to the degree of linkages, structural dispersion and local institutions have a negative impact on knowledge redundancy.

(Continued)

Table 7. (Continued)

Author	Objective	Methods	Participants	Findings
(Ahuja, 2000)	Identify three types of accumulated capital, namely technical, commercial, and social, that can influence a firm's inducements and opportunities for linkage formation.	Secondary data	A longitudinal data set that spans the years 1979 through 1991 and includes the linkage activities of 97 top companies in the worldwide chemicals sector	Results show formation behavior is systematically linked to both inducements and opportunities, specifically the possession of technical, commercial, and social capital. Moreover, three tenure-related advantages have a significant influence on both the inducements to linkage formation and the opportunities available to firms. Furthermore, for firms that lack the three tenure-based advantages, the creation of an important invention provides an additional path to linkage formation.
(Indarti & Postma, 2013)	Analyze the impact of informal networks created by interactions between the owner/manager and their external stakeholders.	Survey	198 furniture and software firms in Indonesia	Results show that the intensity of the company's links with external partners and the multiplicity of links had a positive and significant impact on innovation performance by increasing the exploration and exploitation of SMEs, while the diversity of ties had no significant impact.
(Rothaermel & Deeds, 2004)	Connect the strategic alliances of a technology venture to the exploration-exploitation framework of organizational learning and make the case that the type of alliance affects the alliance's causal relationship with the development of the venture's new products.	Secondary data	A data report from 325 biotechnology firms that entered 2565 alliances over a 25-year period that were fully dedicated to humans therapeutics, and listed in BioScan	Results show that a product development path that begins with exploration alliances and leads to products in development, which leads to exploitation alliances, which leads to products on the market.

(Continued)

Table 7. (Continued)

Author	Objective	Methods	Participants	Findings
(Shiri et al., 2015)	To investigate the impact of network diversity on firm innovation activity. Its goal is to examine the structural issues in innovation networks and to distinguish different network structures for product and process innovation.	Survey	Using data from 348 European Agrifood companies	Results demonstrate that bridge ties (as measured by the number of heterogeneous networks in which a firm participates) always facilitate firm product innovation. The authors discovered that a high number of heterogeneous ties in terms of partners (the presence of both redundant and non-redundant ties at the same time) motivates both product and process innovation in firms. Furthermore, the authors discovered that network competence has a positive impact on process innovation.
(Tiwana, 2008)	The underexplored tensions and complementarities between bridging ties and strong ties in innovation-seeking alliances are examined.	Survey internet	173 individual team participants in 46 project alliances spanning various organizations	Results show that strong relationships among alliance partners have also been shown to greatly promote knowledge integration. Strong linkages also greatly demonstrated the ambidexterity of an influence coalition. Additionally, strong links also aid in the incorporation of knowledge. Furthermore, it has been demonstrated that knowledge integration plays a key role in mediating the interplay of strong ties and bridging ties in alliance ambidexterity.

(Continued)

Table 7. (Continued)

Author	Objective	Methods	Participants	Findings
(Zhang et al., 2018)	Separated managerial ties into intra-industry and extra-industry ties while investigating the moderating effects of intra-industry and extra-industry ties.	Survey and interview	207 firms from various Industries in Shandong, Shaanxi, Henan, Guangdong, and Jiangsu Provinces	Results show not all managerial ties are beneficial in dealing with the exploration-exploitation conflict. Furthermore, the social influence of intra-industry ties will mislead firms into resisting exploratory change and allocating more resources to exploitation. Additionally, the social influence of extra-industry ties guides firms to reduce internal cognitive conflicts caused by exploitation and exploration. As a result, in order to leverage innovation ambidexterity for firm growth, a firm must invest more in extra-industry ties than intra-industry ties.

ambidexterity, namely the continuum perspective and the orthogonal perspective (He & Wong, 2004; Hughes, 2018). The first perspective is a view that considers exploration and exploitation to be at different angles of a continuum (Hughes, 2018; March, 1991). Both of them are trade-offs so that they cannot be carried out to the maximum extent, simultaneously (Hughes et al., 2017; Hughes, 2018; Knight & Harvey, 2015; March, 1991; Randall et al., 2017). From the continuum perspective, the integration of exploration and exploitation is carried out by focusing on the balance between exploration and exploitation (Raisch & Birkinshaw, 2008; Raisch et al., 2009).

The second perspective is the orthogonal perspective. This perspective focuses on the concept of complementarity between exploration and exploitation (Aliasghar & Haar, 2021; Cao et al., 2009; Gupta et al., 2006). The orthogonal perspective assumes that exploration and exploitation are not at two different ends of the continuum, so they are not trade-offs. Exploration and exploitation are simultaneously and equally strong (Hughes et al., 2017; Hughes, 2018). Companies only can carry out equally powerful exploration and exploitation activities simultaneously if they have large amounts of resources or have access to partner resources in a network (Cao et al., 2009; Lavie & Rosenkopf, 2006; Simsek, 2009).

From the continuum perspective, the ambidextrous strategies that should be used are structural ambidexterity (Gupta et al., 2006; March, 1991) and temporary ambidexterity (Sun & Lo, 2014). With structural ambidexterity, the organization forms different structures for exploration and exploitation, then both structures perform simultaneously in the organization (Gupta et al., 2006; March, 1991). In addition to being carried out structurally, ambidexterity from the continuum perspective is carried out by temporarily alternating between exploration and exploitation (Benner & Tushman, 2003; Lavie et al., 2011; Sun & Lo, 2014). In the implementation of the ambidextrous strategy of temporarily alternating between exploration and exploitation, the problem that occurs is managing the change of strategy so that it runs smoothly and does not create confusion among the employees (Benner & Tushman, 2003; García-Hurtado et al., 2022; Hughes, 2018; Sun & Lo, 2014).

The ambidextrous strategies from the orthogonal perspective are contextual ambidexterity (Hughes, 2018; Ikhsan et al., 2017) and relationship ambidexterity (Jansen et al., 2012; Simsek, 2009). Contextual ambidexterity suggests that trade-offs can be managed well if the organization creates a context in which the individuals in it carry out exploration and exploitation simultaneously (Gibson & Birkinshaw, 2004; Tushman & O'reilly, 1996). In addition to being managed contextually, based on the orthogonal perspective, ambidexterity can be undertaken in a synchronized manner (Ali et al., 2022; Gulati & Sytch, 2007; Gunsels et al., 2017; Gupta et al., 2006; He & Wong, 2004; Kauppila, 2010; Lavie & Rosenkopf, 2006; Lavie et al., 2011; Russo & Vurro, 2010; Stadler et al., 2014).

Synchronization strategy can be chosen because SMEs with limited resources will find it difficult to use structural or temporary strategies (Agyapong et al., 2018; Borgatti & Halgin, 2011; Gnyawali & Park, 2009, 2011; Gnyawali et al., 2016; Hameed et al., 2021; Ioanid et al., 2018; Sun & Lo, 2014). In this strategy, SMEs synchronization exploration and exploitation across function, level, and organization. Synchronization strategy also allows SMEs to work with other organizations to implement ambidexterity (Cao et al., 2009; Lavie & Rosenkopf, 2006; Lavie et al., 2011; Lavie, 2006; Simsek, 2009). This shows the fact that every organization is interdependent on each other (Jansen et al., 2006, 2012; Simsek, 2009).

3. Direction for future research

The results of the mapping of ambidexterity in terms of exploration and exploitation show that most of the literature only uses the RBV perspective when discussing ambidexterity to balance exploration and exploitation (Bengtsson & Johansson, 2014; Birkinshaw & Gupta, 2013; Burvill et al., 2018; Cho et al., 2019; Gnyawali et al., 2016). The RBV perspective will result in SMEs only relying on limited internal resources so that ambidexterity is difficult to do (Bengtsson & Johansson, 2014; Hilman et al., 2009; Hughes, 2018). To overcome the lack of internal resources,

SMEs need to get resources from external parties and establish relationships with them (Agyapong et al., 2018; Hilman et al., 2009; Ioanid et al., 2018; Tehseen & Sajilan, 2016). The results of the literature analysis show that exploration and exploitation capabilities can be obtained by establishing relationships with external parties and forming social networks (Hughes, 2018; Kauppila, 2010; Lavie et al., 2011; Lavie, 2006; Wilden et al., 2018).

In Figures 5 and 9, from the literature review, it can be seen that the research topic regarding the relationship between ambidexterity and social networks is a rarely-researched topic which provides a wide range of opportunities for future research. This is supported by the results of strategy mapping conducted by researchers. One strategy to perform ambidexterity is the synchronization strategy (Lavie & Rosenkopf, 2006; Lavie et al., 2011; Simsek, 2009). The strategy states that SMEs need to cooperate with other organizations and form networks to obtain external resources (Hughes, 2018; Lavie et al., 2011).

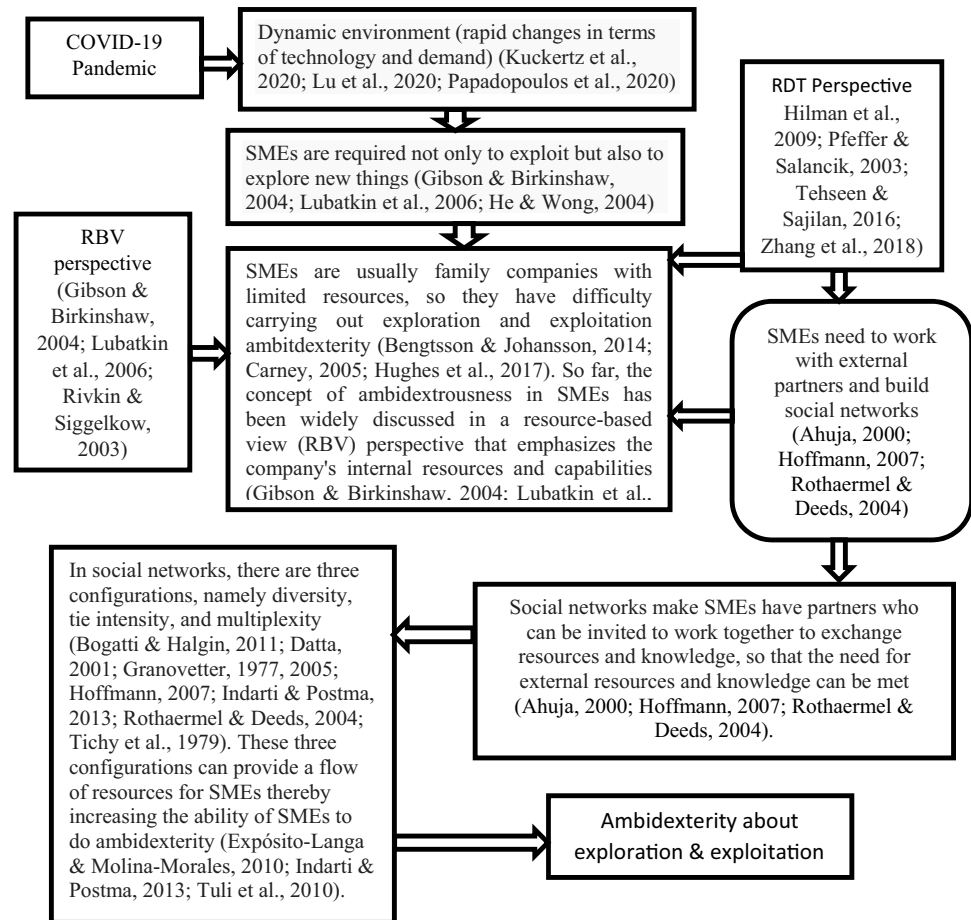
Based on the analysis of the literature, this study uses two perspectives to complement the RBV to address resource-related issues in the implementation of ambidexterity in SMEs. They are resource dependence theory (RDT) and social network theory (Hilman et al., 2009; Pfeffer & Salancik, 2003; Tehseen & Sajilan, 2016). Resource dependence theory is deeply rooted in sociology and political science (Pfeffer & Salancik, 2003; Tehseen & Sajilan, 2016). In this perspective, a successful organization is an organization that can maximize organizational power by controlling critical resources (Tehseen & Sajilan, 2016). Organizations are seen as partnerships that change structures and patterns of behavior to obtain and maintain needed external resources (Bae & Gargiulo, 2004; Chiu, 2008; Zhang et al., 2018).

The resource dependence perspective is based on three assumptions (Hilman et al., 2009; Tehseen & Sajilan, 2016). The first assumption, the organization consists of internal and external cooperation. Cooperation arises from social exchanges that are formed to influence and control the behavior of the parties involved. Second, the environment is considered to have rare and important valuable resources for the survival of the organization. Third, the organization is considered to be working towards two objectives related to the environment, namely, a) obtaining control over resources that minimizes its dependence on other organizations and b) obtaining control over resources that maximizes the dependence of other organizations on the organization (Hilman et al., 2009).

In contrast to RBV that focuses solely on internal resources, RDT considers organizations as open systems, thus assuming that the external environment can provide the essential resources needed by the organization (Hilman et al., 2009; Pfeffer & Salancik, 2003; Shymko & Diaz, 2012; Tehseen & Sajilan, 2016; Zhang et al., 2018). To get additional resources, an organization needs to have a strategy to build relationships with external parties (Hilman et al., 2009; Ioanid et al., 2018). Currently, the COVID-19 pandemic has caused major changes in the environment, so that SMEs cannot rely solely on their internal resources to deal with it (Hilman et al., 2009; Papadopoulos et al., 2020). According to the assumptions in the RDT, organizations respond to environmental uncertainty by managing relationships between organizations to acquire resources (Gaffney et al., 2013; Ioanid et al., 2018; Kamboj et al., 2017; Pfeffer & Salancik, 2003). Table 6 shows the research supporting RDT in the literature selected for this study.

The other perspective is social networking. In social networking, a network is a structure of actors or “nodes” referred to as individuals, departments, groups, or a company. Actors are connected and often referred to as ties or connections (Datta, 2011; Liu et al., 2017). The number of reasons for connecting with other actors may include friendship, common interest, interdependency, or other benefits. Actors can be managed by another actor in a one-directional effect when advising another individual. Also, actors can have an indirect effect based on physical proximity to other actors. Actors can have dichotomous connections with other actors whether they are present or absent or whether they have a friendship or not (Bengtsson & Johansson, 2014; Liu et

Figure 11. Recommendation Framework.



al., 2017). One way to establish good relations between actor (individuals, departments, groups, or a company) with external parties is by creating social networks so that they can access and obtain resources from each other (Ahuja, 2000; Hilman et al., 2009; Majid et al., 2020; Sherer & Lee, 2002; Tehseen & Sajilan, 2016). Table 7 shows the research supporting social network theory in the literature selected for this study. Research on ambidexterity in SMEs in the future, should broaden the perspective of resources not only using internal resources but also being able to utilize resources from external partners from social networks (Ibidunni et al., 2020; Ioanid et al., 2018; Majid et al., 2020; Rogan & Mors, 2015; Shiri et al., 2015; Tehseen & Sajilan, 2016). Figure 11 shows the framework of these recommendations.

4. Proposition

4.1. Components in social network and ambidexterity in SMEs

Borgatti and Halgin (2011) state that social networks have components, namely the diversity of the members of the network and the ties that connect them. External resources can be obtained by managing the diversity of external partners and the ties that exist with external partners (Agyapong et al., 2018; Burvill et al., 2018).

4.2. Diversity of ties

Diversity of ties shows the company's relationship with outsiders who can provide resources that are not redundant (Parida et al., 2015). Shiri et al. (2015) states that the diversity of ties shows the

company's ties with heterogeneous partners. Heterogeneous partners can contribute to providing various resources, information, and knowledge for ambidexterity to balance exploration and exploitation in SMEs (Datta, 2011; Indarti & Postma, 2013; Rogan & Mors, 2015; Shiri et al., 2015). Various external parties can bond with SMEs, namely competitors, suppliers, consumers, consultants, business associations, religious associations, universities, and government agencies (De Leeuw et al., 2014; Indarti & Postma, 2013; Van Beers & Zand, 2013).

The more diverse the ties with SMEs' external partners, the more diverse the knowledge and information that SMEs can obtain (Expósito-Langa & Molina-Morales, 2010; Indarti & Postma, 2013; Shiri et al., 2015). Diverse knowledge and resources allow companies to explore, creating new combinations of technology, producing new experiments, inventions, and product variations (Lazer & Friedman, 2007; McEvily & Zaheer, 1999; Rodan & Galunic, 2004; Shiri et al., 2015; Wang & Rafiq, 2014). Conversely, less diverse ties with partners will cause SMEs to exploit, by strengthening and expanding existing knowledge, increasing efficiency, increasing production, and improving current products (March, 1991; Rodan & Galunic, 2004; Rogan & Mors, 2015).

High diversity has a positive effect on performance if SMEs can do ambidexterity. The higher the diversity of partners, the more available new knowledge to complement existing knowledge (Simsek, 2009). In addition, high diversity causes SMEs not only to exploit existing businesses but also to explore, resulting in ambidexterity between exploration and exploitation (Lavie & Rosenkopf, 2006; Lin et al., 2012). SMEs will have the opportunity to discover new markets, innovations, and new customers, so they don't just exploit existing customers. The ambidexterity of exploration and exploitation will enable SMEs to innovate and at the same time maintain existing businesses (Lavie & Rosenkopf, 2006; Lavie et al., 2011; Lin et al., 2012; Wilden et al., 2018).

Proposition 1: Ambidexterity mediates the effect of diversity of ties on firm performance.

4.3. The strength of bonds

The second component of the social network is the bonds between partners in the network. The strength of the bonds between partners can affect the flow of resources and information in the network. The strength of bonds shows the amount of interaction time (frequency), emotional intensity, relationship intimacy, and mutually beneficial relationships that can provide resources for ambidexterity in balancing exploration and exploitation (Expósito-Langa & Molina-Morales, 2010). The more interaction time between partners, the more possibilities there are for sharing and accessing knowledge from other parties (Granovetter, 1985, 2005; Indarti & Postma, 2013; Molina-Morales & Martínez-Fernández, 2010). When the bond becomes more intensive, the quality of knowledge exchange increases, so that the bond becomes stronger (Granovetter, 1977, 1983).

Strong bonds between individuals facilitate the flow of information and knowledge, but they will lead to redundant information and knowledge (Gedajlovic et al., 2013; Granovetter, 2005). This will increase the accumulation of existing knowledge or lead to the exploitation of existing knowledge and information. Conversely, a weak bond will provide more diverse information, giving rise to exploration for the discovery of new ideas (Granovetter, 1977, 1983, 1985). The weaker the intensity of the bonds that SMEs make with partners, the greater the opportunities for exploratory learning and acquiring new knowledge (Burt, 1992; Gedajlovic et al., 2013; Granovetter, 2005).

March (1991) states that exploitation without exploration causes SMEs to be unable to respond to changes in demand and fail to recognize the needed product and process improvements. Conversely, SMEs that focus too much on exploration will face large costs, risk of failure, and reduced profits from exploiting the products they currently have (Lavie & Rosenkopf, 2006; Lavie et al., 2011; Wilden et al., 2018). Therefore, a combination of ambidexterity between exploration and

exploitation is needed, thereby reducing excessive dependence on exploration or exploitation by companies (Lavie & Rosenkopf, 2006; Lin et al., 2012).

Company performance will increase when SMEs can do ambidexterity and not only exploit the existing business (Lavie & Rosenkopf, 2006; Lavie, 2006). The intensity of SMEs' bonds with partners in the network will improve performance if SMEs can combine exploration and exploitation (Lavie & Rosenkopf, 2006; Wilden et al., 2018). Exploitation will strengthen existing businesses, while exploration will enable SMEs to take on new opportunities in business (Lavie et al., 2011; Lavie, 2006; Lin et al., 2012; Wilden et al., 2018).

Proposition 2: Ambidexterity mediates the effect of the strength of bonds on firm performance.

4.4. Multiple types of ties

The third characteristic of social networks is their multiple ties (Brown & Konrad, 2001; Hoffmann, 2007; Indarti & Postma, 2013; Kenis & Knoke, 2002; Rothaermel & Deeds, 2004; Rowley et al., 2000). Multiple ties refer to the various types of ties between SMEs and external partners, namely transaction ties, friendship ties, and advice or suggestions (Claro et al., 2012; Kapucu & Hu, 2014; Tuli et al., 2010). Multiple ties result in various kinds of simultaneous messages to establish bonds between the company and its external partners, which happens because there are various roles played by SMEs in the complexity of the ties (Claro et al., 2012; Kapucu & Hu, 2014). For example, the relationship between SMEs and suppliers will be called multiplex if apart from being a buyer of the supplier, the company is also good friends with the supplier, resulting in transaction and friendship relationships, thereby creating mutual trust and mutual support (Claro et al., 2012; Ross & Robertson, 2007; Tuli et al., 2010).

The bond of multiple types of ties causes SMEs to absorb various kinds of information and knowledge that can affect ambidexterity in balancing exploration and exploitation (Claro et al., 2012; Indarti & Postma, 2013; Tuli et al., 2010). The complexity of the relationship provides the exchange of knowledge, various types of bonds between partners in the network, and the depth and diversity of knowledge that can be absorbed by organizations from various external parties (Indarti & Postma, 2013; Kapucu & Hu, 2014; Sosa, 2011). The more multiple roles there are in the relationship between one member and another in the network, the higher the multiple types of ties will be (Kapucu & Hu, 2014; Tichy et al., 1979). The high multiple types of ties create opportunities to explore various areas of knowledge from partners in-depth, thus encouraging innovation. In contrast, the low multiple types of ties only strengthen existing knowledge and information, thus leading to the development and improvement of current products and services (Datta, 2011; Rothaermel & Deeds, 2004; Tuli et al., 2010).

When there are many multiplex relationships between companies in a network, more knowledge will emerge (Ross & Robertson, 2007; Tuli et al., 2010). This is because collaboration with different partners influences the amount and variety of knowledge and increases exploration (Ross & Robertson, 2007). SMEs that can manage the multiplex relationship, will gain exploration capabilities. To improve performance, SMEs need to explore to complement the exploitation of their current business (Datta, 2011). The ability to carry out exploration and exploitation ambitions will enable SMEs to create new opportunities and knowledge that can complement the current business and knowledge of SMEs. The ability to innovate and new opportunities while maintaining existing businesses will improve SMEs' innovation performance (March, 1991; Tuli et al., 2010; Wilden et al., 2018).

Proposition 3: Ambidexterity mediates the effect of multiple types of ties on firm performance.

5. Implications and limitation

The results of the literature analysis provide a theoretical contribution to the discussion regarding ambidexterity in SMEs. RBV's perspective is not enough to discuss ambidexterity in SMEs, because RBV only emphasizes internal resources. This perspective will make SMEs closed so that they only rely on limited internal resources. Limited resources are one of the obstacles to implementing ambiguity in SMEs. In this article, there are two perspectives used to complement the RBV perspective, namely the RDT perspective and the social network perspective. Both perspectives use an outside-in view, thus complementing the RBV perspective, which uses an inside-out view when discussing ambiguity.

Apart from theoretical implications, the results of this literature review also have practical implications. To deal with the impact of COVID-19, SMEs need to collaborate with external parties and form networks (Bengtsson & Johansson, 2014). Such networks can overcome shortages and uncertainties in terms of resources (Pfeffer & Salancik, 2003; Tehseen & Sajilan, 2016). SMEs that have social networks will have partners who can be invited to work together to exchange resources and knowledge so that the need for external resources and knowledge can be met (Ahuja, 2000; Hoffmann, 2007; Rothaermel & Deeds, 2004).

This study has certain limitations. There are only a few studies on ambidexterity in Indonesia and there are only some articles on the topic. The author has tried to overcome these problems by conducting two stages of literature review. In the first stage, the authors analyze the ambidexterity of SMEs in various countries, including Indonesia. While in the second stage, the authors analyze ambidexterity only in the context of SMEs in Indonesia based on a few articles that meet the criteria. The results of the analysis using bibliometrics do produce more or less the same conclusions. However, if there are quite many research articles on ambidexterity in Indonesia, it is better to do a more in-depth re-analysis specifically on the literature on ambidexterity in Indonesian SMEs to obtain a more specific picture of ambidexterity. In Indonesian SMEs.

6. Conclusion

This article shows the gap between the literature and the application of ambidexterity in Indonesian SMEs. Based on the literature review, two things can be concluded. First, the discussion of ambidexterity has a lot to do with innovation performance, but only a few studies have discussed the relationship between ambidexterity and the resources required to do so. Second, the results of keyword mapping using VOSviewer show that research linking ambidexterity with resource dependence theory (RDT) and social networks is rare. This result is the same as the result of the theory mapping that underlies the ambidexterity concept to balance exploration and exploitation, which is dominated by RBV theory so that it only focuses on internal resources and competition among companies.

Implementing ambidexterity by small and medium-sized enterprises cannot rely solely on their internal resources and the use of RBV alone. This happens because SMEs are usually family-owned companies with limited resources (Carney, 2005; Lavie & Rosenkopf, 2006). SMEs need to build social networks to get opportunities to access and obtain external resources from partners in their networks (Gnyawali & Park, 2009, 2011; Gnyawali et al., 2016). This can be done if the owners or managers of SMEs use the RDT perspective so that they view the organization as an open system. The RDT perspective assumes that the external environment can provide the essential resources needed by the organization (Hilman et al., 2009; Pfeffer & Salancik, 2003; Tehseen & Sajilan, 2016; Zhang et al., 2018).

One way to establish good relations with external parties is by creating social networks with them to access and obtain resources from each other (Ahuja, 2000; Hilman et al., 2009; Sherer & Lee, 2002; Tehseen & Sajilan, 2016). Social networks emphasize an external (outside-in) perspective to complement an internal (inside-out) perspective in a resource-based view (Datta, 2011; Tichy et al., 1979). This paper contributes to clarifying the gap between the RBV perspectives to

underlie ambidexterity in Indonesian SMEs. In future research, RBV needs to be complemented by RDT and social networks to address resource-related problems faced by SMEs.

In addition to including components in social networks, future ambidexterity research should also consider cross-organizational ambidexterity (Hughes, 2018; Lavie et al., 2011; Wilden et al., 2018). Using a synchronization strategy, organizations can perform ambidexterity across organizational boundaries. Birkinshaw and Gupta (2013), Jansen et al. (2012), and Simsek (2009) state that ambidexterity is a concept that can cross various levels, functions, and boundaries between organizations. This can happen when organizations form networks and depend on each other for resources (Jansen et al., 2012; Simsek, 2009). The organization's ability to carry out ambidexterity can be achieved by developing the organization's internal specialization and synchronizing with external partners who have different specializations (Gupta et al., 2006; He & Wong, 2004; Kauppila, 2010; Lavie & Rosenkopf, 2006; Lavie et al., 2011; Stadler et al., 2014).

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